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**Abstract**

This emulsion contains omega -3 fatty acids, in particular eikosapentaene acid (EPA), or their physiologically tolerable esters as components of the fatty phase. Altogether, it contains the following: omega -fatty acids, in particular EPA, or their physiologically acceptable esters in their pure form or as components of fish oils and/or fish oil fractions; at least one physiologically acceptable emulsifier; optionally, further fats such as medium-chained triglycerides (MCT); optionally, alpha -tocopherol or physiologically acceptable alpha -tocopherol-esters; optionally, ascorbic acid or physiologically acceptable ascorbic acid esters; and the usual additives and auxiliary substances. The total fat content is comprised between 2 and 20% and the emulsifier content is comprised between 5 and 20% (relative to the fat content). Production and use of this emulsion are also described.

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oder Lachs.

10. Verwendung gemäß Ansprüchen 1 bis 9, dadurch gekennzeichnet, daß die als Eventual-Fettkomponenten eingesetzten mittelkettigen Triglyceride zu mindestens 90 % aus Glyceriden der Caprylsäure (C<sub>8</sub>) und Caprinsäure (C<sub>10</sub>) bestehen und der Gehalt dieser Komponente 0 bis 90 % (bezogen auf den lipophilen Anteil) beträgt.
11. Verwendung gemäß Ansprüchen 1 bis 10, dadurch gekennzeichnet, daß der eingesetzte Emulgator ein Phospholipid tierischen oder pflanzlichen Ursprungs, insbesondere aus Hühnereigelb oder Sojabohne, ist.
12. Verwendung gemäß Ansprüchen 1 bis 11, dadurch gekennzeichnet, daß sie weitere Emulgierhilfsstoffe wie Natriumsalze langkettiger Fettsäuren (bevorzugt 0,005 bis 0,1 Gew.-%, bezogen auf die Gesamtemulsion) und/oder Cholesterin oder Cholesterinester (bevorzugt 0,005 bis 0,1 Gew.-%, bezogen auf die Gesamtemulsion) enthält.
13. Verwendung gemäß Ansprüchen 1 bis 12, dadurch gekennzeichnet, daß sie 0 bis 100 mg  $\alpha$ -Tocopherol oder  $\alpha$ -Tocopherolester, bezogen auf 100 g Fett, enthält.
14. Verwendung gemäß Ansprüchen 1 bis 13, dadurch gekennzeichnet, daß sie 0 bis 500 mg Ascorbinsäure oder Ascorbinsäureester, bezogen auf 100 g Fett, enthält.
15. Verwendung gemäß Ansprüchen 1 bis 14, dadurch gekennzeichnet, daß sie einen pH-Wert im Bereich von 6 bis 9 aufweist.

#### Claims

1. Use of a fat emulsion containing  $\omega$ -3 fatty acids, and more specifically eicosapentaenoic acid (EPA) or its physiologically acceptable esters as components of the fat phase, wherein the fat emulsion contains
  - $\omega$ -3 fatty acids, and especially EPA, and/or its physiologically acceptable esters in the pure state or as component(s) of fish oils and/or fish oil fractions,
  - at least one physiologically acceptable emulsifier,
  - optionally further fats such as medium-chain triglycerides (MCT),
  - optionally  $\alpha$ -tocopherol or physiologically acceptable  $\alpha$ -tocopherol esters,
  - optionally ascorbic acid or physiologically acceptable ascorbic acid esters, as well as
  - conventional additives or auxiliary materials,
 whereby
  - the total fat content is between 2 and 20%, and
  - the emulsifier content is between 5 and 20% (based on the fat content),
 for preparing a medicament for the endotracheal treatment of pulmonary diseases.
2. The use according to claim 1 for the prophylactic and therapeutic treatment of respiratory insufficiency.
3. The use according to claim 1 for the treatment of inhalative noxae such as, for example, smoke poisoning and burns of the respiratory tract.
4. The use according to claim 1 for chronic obstructive pulmonary diseases such as, for example, asthma and chronic bronchitis.
5. The use according to claims 1 for the prophylactic and therapeutical treatment of aspiration pneumonia.
6. The use according to claims 1 for improving the splanchnic perfusion and, hence, the clearing function of the RES.
7. The use according to claim 1 for the endotracheal application of nutritively and pharmacologically effective  $\omega$ -3 fatty acids upon the indications according to claims 1 to 6.
8. The use according to claims 1 to 7, characterized in that said fish oil is a highly purified fish oil concentrate

having an EPA content of at least 25% (based on the fatty acid methyl esters of the fish oil concentrate).

9. The use according to claims 1 to 8, characterized in that said fish oil/fish oil concentrate is obtainable by processing cold water fish such as, for example, mackerel, sardine, herring or salmon.
10. The use according to claims 1 to 9, characterized in that of the medium-chain triglycerides employed as optional components at least 90% consist of glycerides of caprylic ( $C_8$ ) and capric ( $C_{10}$ ) acids and the amount of this component is from 0 to 90% (relative to the lipophilic proportion).
11. The use according to claims 1 to 10, characterized in that the emulsifier employed is a phospholipid of animal or vegetable origin, and more particularly one derived from hen's egg yolk or soybean.
12. The use according to claims 1 to 11, characterized in that it contains further emulsifying auxiliary materials such as sodium salts of long-chain fatty acids (preferably in a concentration of from 0.005 to 0.1% by weight, based on the total emulsion) and/or cholesterol or cholesterol esters (preferably in a concentration of from 0.005 to 0.1% by weight, based on the total emulsion).
13. The use according to claims 1 to 12, characterized in that it contains  $\alpha$ -tocopherol or  $\alpha$ -tocopherol ester in an amount of from 0 to 100 mg, based on 100 g of fat.
14. The use according to claims 1 to 13, characterized in that it contains ascorbic acid or ascorbic acid ester in an amount of from 0 to 500 mg, based on 100 g of fat.
15. The use according to claims 1 to 14, characterized in that it has a pH value within the range of from 6 to 9.

#### Revendications

1. Utilisation d'une émulsion de matière grasse contenant des acides gras  $\omega$ -3, notamment l'acide éicosapentaénoïque (EPA), ou leurs esters physiologiquement neutres, comme constituants de la phase grasse, cette émulsion (de matière) grasse contenant
  - des acides gras  $\omega$ -3, notamment EPA, ou leurs esters physiologiquement neutres, sous forme pure ou sous forme de constituants d'huile de poissons et/ou de fractions d'huile(s) de poisson,
  - au moins un émulsifiant physiologiquement neutre,
  - éventuellement d'autres matières grasses comme des triglycérides à chaînes moyennes ("MCT"),
  - éventuellement de l' $\alpha$ -tocophérol ou des esters physiologiquement neutres d' $\alpha$ -tocophérol,
  - éventuellement de l'acide ascorbique ou des esters physiologiquement neutres de l'acide ascorbique, ainsi que
  - des additifs et adjuvants usuels;
 la teneur totale en matière grasse se situant entre 2 et 20%, et  
 la teneur en émulsifiant se situant entre 5 et 20% par rapport à la teneur en matière grasse, pour la fabrication d'un médicament destiné à traiter par voie endotrachéale les maladies des poumons.
2. Utilisation selon la revendication 1 pour le traitement prophylactique et thérapeutique d'une insuffisance respiratoire.
3. Utilisation selon la revendication 1 pour le traitement d'agents pathogènes inhalés, comme par exemple des empoisonnements par des fumées et des brûlures des voies respiratoires.
4. Utilisation selon la revendication 1 pour le traitement de maladies d'obstruction chronique des poumons, comme par exemple l'asthme et de la bronchite chronique.
5. Utilisation selon la revendication 1 pour le traitement prophylactique et thérapeutique de la pneumonie par aspiration.
6. Utilisation selon la revendication 1 pour améliorer la perfusion splanchnique et donc augmenter la fonction de clarification (ou "clairance") du RES (système réticuloendothélial).
7. Utilisation selon la revendication 1 pour une administration endotrachéale d'acides gras  $\omega$ -3, à action nu-